

**Commonwealth of Kentucky
Division for Air Quality**

PERMIT APPLICATION SUMMARY FORM

Completed by: Sukhendu K. Majumdar

GENERAL INFORMATION:

Name:	Ashland Inc. - The Valvoline Company
Address:	21 st and Front Street, Ashland, Kentucky 41101
Date application received:	September 29, 2006
SIC/Source description:	8734/Testing Laboratories
Source ID #:	21-019-0110
Source AI #:	40443
Activity #:	APE20060002
Permit number:	F-05-02R1

APPLICATION TYPE/PERMIT ACTIVITY:

<input type="checkbox"/> Initial issuance	<input type="checkbox"/> General permit
<input checked="" type="checkbox"/> Permit modification	<input checked="" type="checkbox"/> Conditional major
___ Administrative	<input type="checkbox"/> Title V
X Minor	<input type="checkbox"/> Synthetic minor
___ Significant	<input type="checkbox"/> Operating
<input type="checkbox"/> Permit renewal	<input checked="" type="checkbox"/> Construction/operating

COMPLIANCE SUMMARY:

<input type="checkbox"/> Source is out of compliance	<input type="checkbox"/> Compliance schedule included
<input type="checkbox"/> Compliance certification signed	

APPLICABLE REQUIREMENTS LIST:

<input type="checkbox"/> NSR	<input type="checkbox"/> NSPS	<input checked="" type="checkbox"/> SIP
<input type="checkbox"/> PSD	<input type="checkbox"/> NESHAPS	<input type="checkbox"/> Other
<input type="checkbox"/> Netted out of PSD/NSR	<input type="checkbox"/> Not major modification per 401 KAR 51:001,1(116)(b)	

MISCELLANEOUS:

- ☐ Acid rain source
- ☐ Source subject to 112(r)
- ☒ Source applied for federally enforceable emissions cap
- ☒ Source provided terms for alternative operating scenarios
- ☐ Source subject to a MACT standard
- ☐ Source requested case-by-case 112(g) or (j) determination
- ☐ Application proposes new control technology
- ☒ Certified by responsible official
- ☒ Diagrams or drawings included
- ☐ Confidential business information (CBI) submitted in application
- ☐ Pollution Prevention Measures
- ☒ Area is non-attainment (list pollutants): Ozone (8-hr standard) and PM2.5

EMISSIONS SUMMARY:

Pollutant	Actual (tpy) (From 2005 Inventory)	Potential (tpy)
PM/PM ₁₀	0.0	0.07
SO ₂	0.06	0.35
NO _x	1.32	9.4
CO	18.8	< 90
VOC	1.47	9.5
LEAD	0.0	0.04
HAP \geq 10 tpy (by CAS)	None.	None.
Total HAPs:	None.	3.44

SOURCE PROCESS DESCRIPTION:

The Valvoline Company operates an Automotive Products Application Laboratory (APAL) in Boyd County, Kentucky, with the primary purpose of running automotive engine tests to evaluate how engine fluids perform under operating conditions. On September 29, 2006 the Division for Air Quality received minor modification application to install two Marine Engine Testing Stands in the facility. The primary purpose of the Marine Engine Testing Stands would be the same as automotive engines. The facility was established in 1953. None of the engines are operated with a catalytic converter attached because a converter would interfere with the testing process by affecting the backpressure experienced by the engine. As a result of the lack of a catalytic converter, pre-1975 emission factors from AP-42, Volume II, Appendix H and for marine engine (non-road) EPA420-R-05-019 (NR-010e) were used to ensure conservative estimates from the engines. The automotive engines in the test facility are operated for varying time periods in order to test the performance of lubricants and similar materials. The engines are not operated twenty-four hours per day, and it is unlikely that testing schedules would result in all the engines operating at the same time.

The Valvoline Company is also applying to install and operate an Air Sparge/Soil Vapor Extraction (AS/SVE) system at the site to remedy dissolved phase hydrocarbon-impacted soil and groundwater. The sparging network will consist of two sets of three sparge points installed to a depth of approximately 40 feet. The sparging will typically occur at a low flow rate of approximately 4 scfm per sparge point at 5 psig, however the air sparge compressor is capable of delivering 110 scfm at 15 psig. Sparging will be applied alternately between sets of sparge points. The SVE points will be installed to a depth of approximately 30 feet, and, through use of a vacuum pump, will remove VOC's from the unsaturated soils and recover sparged air. The extracted vapor/water mixture will be routed through a knock out tank to remove moisture, and the vapor through a carbon adsorber to reduce HAP emissions. Accumulated water in the knock out tank will be pumped to a hold tank for periodic disposal.

Significant and insignificant equipment and activities at The Valvoline Company include the following:

- 7 Unleaded gasoline powered test engines
- 2 Diesel powered test engines
- 1 Leaded gasoline powered test engine (NASCAR racing engine)
- 2 Marine testing engines- gasoline powered (Proposed)
- AS/SVE remediation system (Proposed)
- 8 Underground storage tanks (UST's)
- 1 Skid mounted storage tank (500 gal) for leaded gasoline
- 2 Skid mounted storage tanks (550 gal each) for diesel fuel (supply Boilers)
- 4 Diesel fuel boilers (0.4 mmBtu/hr) for space heat
- 12 Natural gas fired space heaters
- 5 Metal cleaning degreasers/parts washers
- 2 Honing machines
- Maintenance activities associated with engine repair
- Lab fume hoods
- Induced draft cooling water tower

EMISSION AND OPERATING CAPS DESCRIPTION:

The Valvoline Company has requested numerous voluntary operating and source-wide emission limits to keep emissions under major source thresholds and preclude the applicability of 401 KAR 52:020, *Title V permits*. See Section B of the permit for operating and emission limits pertaining to the individual emission points, and Section D of the permit for the requested source-wide emission limits.